

airocide

The AiroClean 420 Spec Process

Assessment of Given Space:

1. What is the space used for?
2. What issue or issues is the client experiencing that Airocide can help solve? (i.e mold, yeast, bacteria, etc)
3. Are there any photos and/or diagrams available that detail specifics about the space under consideration?
4. Where is power available in the space under consideration?
5. Is there any other information about the space under consideration that we should be made aware of? (i.e a forklift that comes in and out of it)
6. If an HVAC system is present; provide details about how many other spaces are on the HVAC system, what the fresh air replacement rate is, and dimensions of ducts if possible.
7. What is the total volume from the unit mix formula:

Total Volume = Initial Volume + (Initial Volume) (Air Exchange) + 200 cubic feet for every door and window

Initial Volume = Cubic Dimensions of Space (Length x Width x Height) in feet or meters.

Air Exchange = If the space has an HVAC system. How many times per hour is the total volume of air exchanged.

Note: In some circumstances HVAC systems have very high exchange rates in individual rooms, which would lead to an unnecessarily large number of Airocide units in a single room. In this case; we calculate the dimensions of all rooms on the HVAC system, and the duct work to come up with a total volume and deploy Airocide across the system (in all rooms where the HVAC has a return). Of course, taking into account the fresh air replacement rate, which is the rate at which the HVAC system inputs air from outside.

Air Processing Time Calculations for AiroClean 420 units:

AiroClean 420 – 2,000 Cubic Feet per Hour / 57 Cubic Meters per Hour

Recommended AiroClean 420 Deployment for A Given Space:

AiroClean 420 has three official designations for determining unit mix. This is why it is so important to get clear and accurate answers to questions one and two from above. However, it is understandable that this is not always possible. So, the following descriptions are clear enough to allow a client to make a determination for themselves based on their local conditions. Please feel free to copy and paste these descriptions, translate as needed, and fill in local information for highlighted areas. AiroClean 420 strongly encourages you to present all options to the client to best fulfill what their unique situation demands.

Full Spec:

In this circumstance; the entire volume of air in a given space is cycled through our Airocide NASA PCO reaction chamber at least one time per hour. This is our most rigorous spec which eliminates 99.9% of bacterial and fungal colonies and over 80% of Ethylene. This full spec is recommended for spaces where significant problems have been reported in the past and dramatic action is required; this may include, but is not limited to, complete product loss or impending regulatory action. The AiroClean 420 has an air flow rate of 2,000 cubic feet per hour or 57 cubic meters per hour.

Using Cubic Feet:

Total Volume ÷ 2,000 CF/h = Number of AiroClean 420 Units

Using Cubic Meters:

Total Volume ÷ 57 CM/h = Number of AiroClean 420 Units

Note: Always round up if decimal portion is .5 or greater.

Intermediate Spec:

In this circumstance; the entire volume of air in the given space is cycled through our Airocide NASA PCO reaction chamber four times per day or once every six hours. This metric has been demonstrated to have success in such conditions. This spec is for those who have experienced moderate issues in the past, where air quality is perceived as a problem but loss is a relatively low proportion of overall output. Circumstances may include, but not be limited to, appearance of powdery mildew on leaves. The AiroClean 420 has an air flow rate of 2,000 cubic feet per hour or 57 cubic meters per hour.

Using Cubic Feet:

$(\text{Total Volume} \div 6.0) \div 2,000 \text{ CF/h} = \text{Number of AiroClean 420 Units}$

Using Cubic Meters:

$(\text{Total Volume} \div 6.0) \div 57 \text{ CM/h} = \text{Number of AiroClean 420 Units}$

Note: Always round up if decimal portion is .5 or greater.

Basic Spec:

In this circumstance; the entire volume of air in the given space is cycled through our Airocide NASA PCO reaction chamber about one time per day. This spec is for spaces with very few issues and extremely rigorous cleaning protocols. Generally those who adopt the basic spec have not had indoor air quality issues, but perceive it to be a potential problem. This would be considered general insurance against future problems. The AiroClean 420 has an air flow rate of 2,000 cubic feet per hour or 57 cubic meters per hour.

Using Cubic Feet:

$(\text{Total Volume} \div 24.0) \div 2,000 \text{ CF/h} = \text{Number of AiroClean 420 Units}$

Using Cubic Meters:

$(\text{Total Volume} \div 24.0) \div 57 \text{ CM/h} = \text{Number of AiroClean 420 Units}$

Note: Always round up if decimal portion is .5 or greater.

The GCS-25

The GCS-25 unit may be the best unit to use for dispensaries or medical consultation areas. The unit transits air at a rate of 1,200 cubic feet per hour or 34 cubic meters per hour. The same analysis should be undertaken in specing unique spaces such as these. Please note, the GCS-25 uses multicolor LED lights and is not optimized for hanging proximate to lamps. So, it should never be used in grow rooms. That being said, the same spec process (full spec, intermediate spec, and basic spec) should be observed.

Note: This is an attempt to provide a framework for our global partners to provide meaningful unit recommendations to their clients based on existing information. We come up with new and exciting applications for the Airocide NASA PCO technology all of the time, and this may require amending what is provided above. Should you have questions about a unique circumstance; Airocide is happy to work with you in creating a custom spec.

Airocide is always happy to help you in using this methodology for coming up with recommendations for your clients. Please direct all questions/inquiries to Airocide's Science and Technology Division:

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Also Available on What's App

Example of Using The Airocide Spec Process:

Let's imagine a scenario in which a medical cannabis grower has requested that the local Airocide distributor provide a recommendation for one of their cold storage rooms. Below is exactly how Airocide recommends going about this. Results are displayed using both cubic feet and cubic meters.

Assessment (From Questions on Page 1):

1. The Space is used to grow medical cannabis.
2. The client has seen powdery mildew appear on the leaves of about 20% of the product.
3. Clear photos were provided detailing the extent of the problem.



4. Power is available proximate to the lamps.
5. There is one door to the grow room, and it is opened for tender access approximately five times per day.
6. There is no HVAC system, and, thus no mechanical movement of air between the cold room and the outside environment
7. Initial Volume = (65 ft (L) x 65 ft (W) x 20 ft (H)) = 84,500 ft³ (2,393 m³)
Total Volume = Initial Volume + Air Exchange + 200 ft³ for each door or window = 84,500 + 0 + 200 = 84,700 ft³ (2,398 m³)

Recommended Airocide Deployment for Grow Room:

Note: Notice how we take the description of the each spec listed in the previous pages and amend it to the specific circumstance. Also, how the math is clearly laid out and descriptions of why a conclusion was reached. This is important in building credibility.

Full Spec:

In this circumstance; the entire volume of air in the grow room is cycled through our Airocide NASA PCO reaction chamber at least one time per hour. This is our most rigorous spec which eliminates 99.9% of bacterial and fungal colonies. This full spec is recommended for spaces where significant problems have been reported in the past and dramatic action is required; this may include, but is not limited to, complete product loss or impending regulatory action. The AiroClean 420 has an airflow rate of 2,000 cubic feet per hour, or 57 cubic meters per hour.

$$84,700 \text{ (ft}^3\text{)} \div 2,000 \text{ CF/h} = 42 \text{ AiroClean 420 Units}$$
$$2,398 \text{ (m}^3\text{)} \div 57 \text{ CM/h} = 42 \text{ AiroClean 420 Units}$$

These units should be installed parallel to the lamps.

Intermediate Spec:

In this circumstance; the entire volume of air in the grow room is cycled through our Airocide NASA PCO reaction chamber four times per day or once every six hours. This metric has been demonstrated to have success in such conditions. This spec is for those who have experienced moderate issues in the past, where air quality is perceived as a problem but loss is a relatively low proportion of overall output. Circumstances may include, but not be limited to, appearance of powdery mildew on leaves. This spec should be considered given the information provided, but unit numbers may require revision at a later date because of large product loss quotient.

$$(84,700 \text{ (ft}^3\text{)} \div 6.0) \div 2,000 \text{ CF/h} = 7 \text{ AiroClean 420 units}$$
$$(2,398 \text{ (m}^3\text{)} \div 6.0) \div 57 \text{ CM/h} = 7 \text{ AiroClean 420 units}$$

These units should be installed parallel to the lamps.

Basic Spec:

In this circumstance; the entire volume of air in the grow room is cycled through our Airocide NASA PCO reaction chamber about one time per day. This spec is for spaces with very few issues, and extremely rigorous cleaning protocols. Generally those who adopt the basic spec have not had indoor air quality issues, but perceive it to be a potential problem. This would be considered general insurance against future problems.

$(84,700 \text{ (ft}^3) \div 24) \div 2,000 \text{ CF/h} = 1 \text{ AiroClean 420 unit}$

$(2,398 \text{ (m}^3) \div 24) \div 57 \text{ CM/h} = 1 \text{ AiroClean 420 unit}$

These units should be installed parallel to the lamps.

